

REMARKS/ARGUMENTS

No claims have been amended. However, all pending claims (1-23) have been reproduced herein for the Examiner's convenience.

In the Office Action, the Examiner rejected claims 1-23 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,446,084. This rejection is fully traversed below.

The present application relates to frameworks for implementing class files in computing systems. A class file is particularly useful in virtual machines. In accordance with one aspect of the invention, a "reference cell" can be generated for one or more methods within a class file. The reference cell, among other things, can include sufficient information to facilitate invocation of a method. As such, a reference cell may include a class pointer field, a method name field, a signature field, and potentially other fields. The "reference cell," among other things, allows a more efficient method invocation because the information necessary for invocation of a method is readily available from the "reference cell" (see, for example, Abstract of the invention).

Another aspect of the invention pertains to loading class files. In one embodiment, a method invocation is translated at load time into an "internal invocation" that references a "reference cell." The reference cell can provide, among other things, a reference to an internal class representation which can also be loaded into the virtual machine at load time. The use of a reference cell has the potential in many circumstances to improve the performance of the virtual machine as well as potentially reduce the memory requirements of the internal class representations.

As a representative claim, claim 1 pertains to an internal class representation that can be used by a virtual machine at runtime. The internal class representation includes a first method and its corresponding reference cell. The reference cell includes: a class pointer field that can be used to locate an internal representation of a class, a method name field that contains or references the name of the first method, and a signature field that contains or references a signature associated with the first method.

It is noted that Fig. 2 of *Shaylor* depicts a method table 216. It is further noted that the system of *Shaylor* uses the class pointer, method name and type information

(signature) to lookup a method pointer in the method table 216. However, it is respectfully submitted that using a class pointer, method name, and type information does not teach or suggest a reference cell that corresponds to a method and includes: a class pointer, a method name field, and a signature field. In other words, use of a particular component (e.g., method name) does NOT teach a reference cell corresponding to a method even though the reference cell may include that particular component. Moreover, the claimed reference cell includes a combination of components. This combination is not taught or suggested even assuming that use of each one of the components will be known when the reference cell is provided. Accordingly, it is respectfully submitted that claim 1 is patentable over the cited art because it recites a reference cell that includes a class pointer field, a method name field, and a signature field.

In addition, it is respectfully submitted that claims that are dependent on claim 1 are also patentable at least for this reason. Moreover, these dependent claims recite additional features that render them patentable for additional reasons. For example, claim 2 additionally recites that the reference cell includes an information field and a link field. It is earnestly believed that the cited reference does not teach or suggest these features.

Although independent claim 12 pertains to a process of loading a class files into the computing system, it recites features relating to a reference cell. Moreover, claim 12 recites additional operations that are not taught or suggested by *Shaylor*. These operations include: reviewing at least one method invocation to determine whether a reference cell currently exists, and creating a new reference cell for a selected method. Contrary to the Examiner's assertion, the field table 220 of *Shaylor* does NOT teach these features. Accordingly, it is respectfully submitted that claim 12 is patentable over the cited art for at least these reasons. Additionally, it is respectfully submitted that claims that are dependent on claim 12 recite additional features that are not taught or suggest by *Shaylor*. For example, claim 13 additionally recites that the reviewing be performed only when a method is likely to be invoked. It is respectfully submitted that *Shaylor* does not teach or suggest this feature.

Independent claim 19 pertains to a process for loading a class file that includes a constant pool and at least one method invocation that references the constant pool. Claim 19, among other things, recites translating at least one method invocation into an

internal invocation that references a reference cell associated with the internal class representation that contains the method. Contrary to the Examiner's assertion, it is respectfully submitted that *Shaylor* does not teach or suggest translating at least one method invocation into an internal invocation that references a reference cell.

Based on the foregoing, it is submitted that claims are patentably distinct over the cited art of record. Additional limitations recited in the independent claims or the dependent claims are not further discussed because the limitations discussed above are sufficient to distinguish the claimed invention from the cited art. Accordingly, Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner.

Applicants hereby petition for an extension of time which may be required to maintain the pendency of this case, and any required fee for such extension or any further fee required in connection with the filing of this Amendment is to be charged to Deposit Account No. 500388 (Order No. SUN1P809). Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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